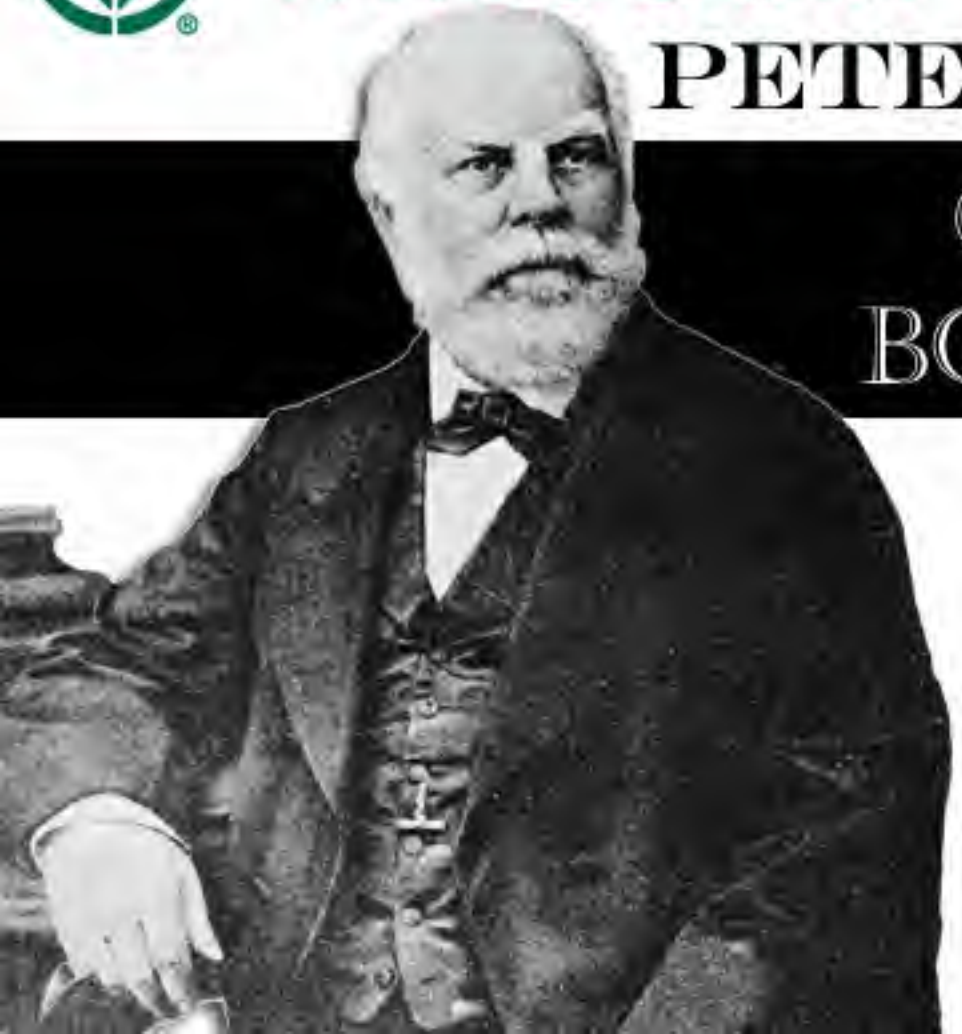
Missouri Botanical Garden
Peter H. Raven Library

George Engelmann Botanical Notebooks



Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

16 feb 51

A. Contorta

15 feb Wasatch Mts

710-234

0 1 2 3 4 5 6 7 8 9 10
cm
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MISSOURI BOTANICAL GARDEN

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GEORGE ENGELMANN PAPERS

Pinus contorta

Oct 20 1870

2092 State Survey Cal. Forms

sheath 12 mm long in young leaves
in older ones 5 mm or less
only 2 mm long
young sheath consisting of
about 6 bracts

leaves 1¾-2 in. wide
1½-55 mm long

×30

×60

×60

young leaf

older leaf

very old leaf

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cm

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ALL THE NEW REMEDIES CONSTANTLY ON HAND

ALEX. LEITCH,

APOTHECARY & CHEMIST,

Cor. 4th and Olive Sts., St. Louis.

CHEMIST.

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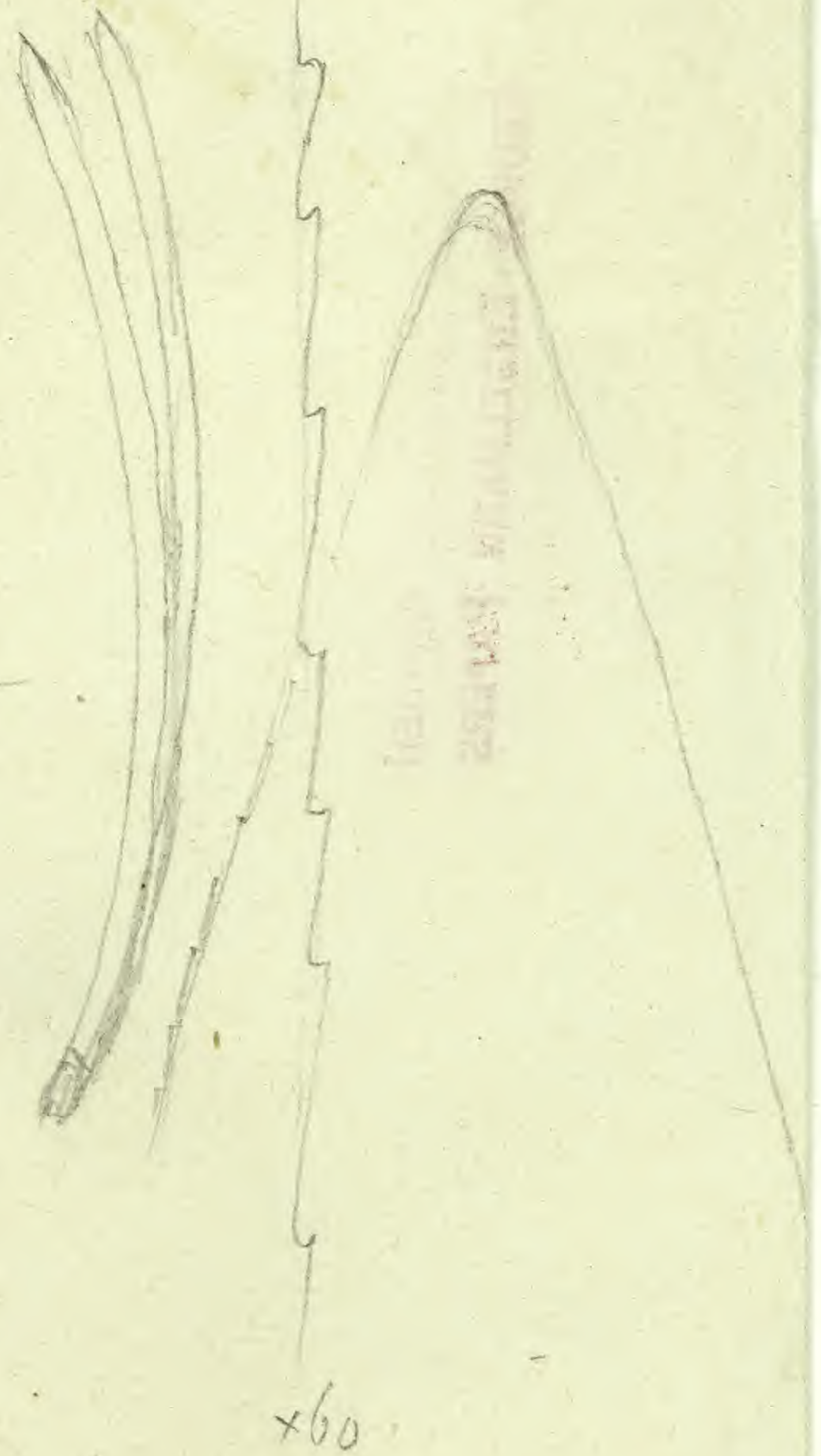
P. costata Mexico
Calif., Sierra, Lemmon

Feb 21 1876

× 30.

internodes hypoderm all around

no ducts!



× 60.

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Leitch & Corlies

DRUGGISTS

South-west Corner Fifth and Market Streets

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Pinus contorta, Cal. Jolon Feb 21 1876
Calif. Siskiyou, Brewer

x 30

about 18 bundles of hypoder cells below
tiers of stomata between them
stony bundles in the corners
few simple cells above
I find no mention around stomata Duty
(section not good!)
nor any within bundle sheaths

x60

x30

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South-west Corner Fifth and Market Streets

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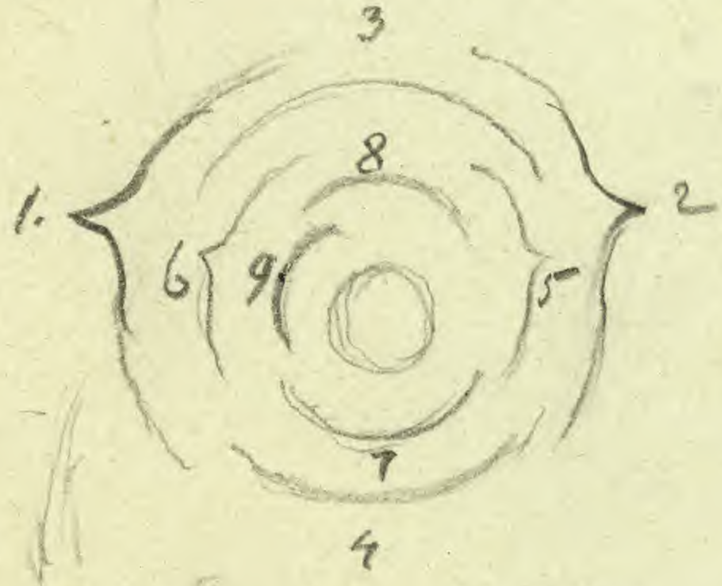
"P. Pyrenaica" May 23 1872

HB. Heimonni May 22 ?

not yet in bloom



× 415

diam. of Pollen

bract

posterior view × 4

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"P. pyrenaica"

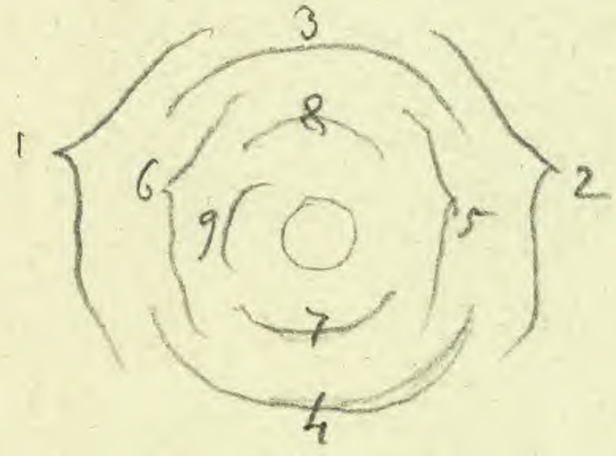
May 30 1872

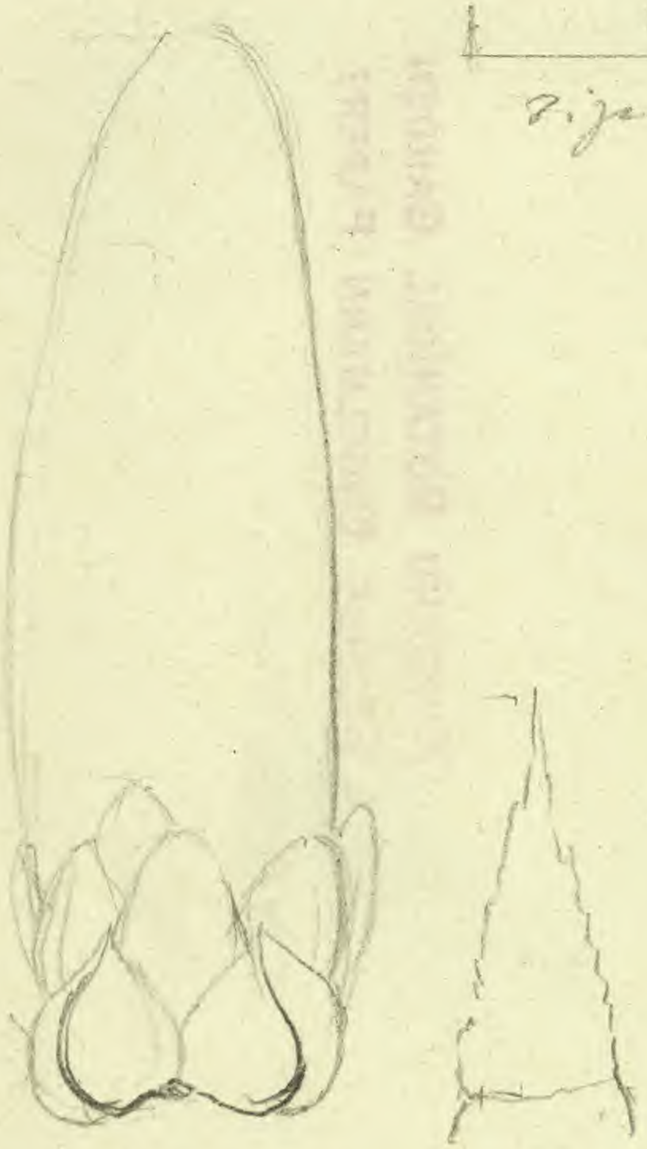
second tree in H.B. Session

not quite in Bloom May 22

×415

Size of Bulb





posterior view

Erect.

×4

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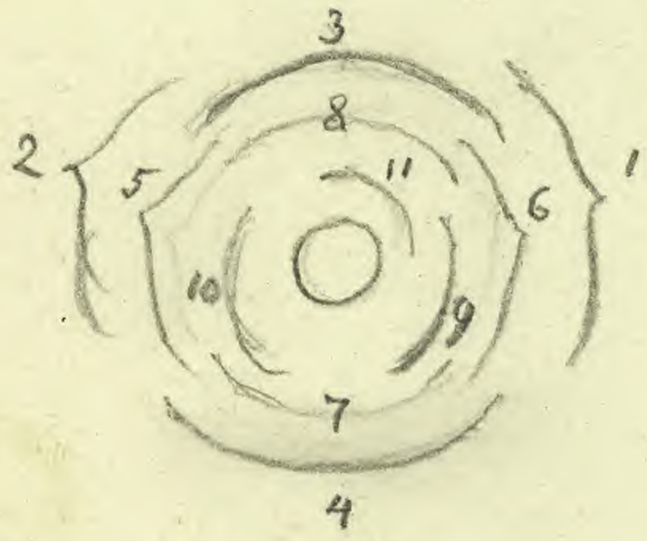
Pollen

$\frac{33 - 34{,}5}{415} = 0.080 - 0.084$ mm

Pinus pyrenaica ? May 24 1872

yong Tree on the site of "pyrenaica"
= Shaw's Garden without
name, just shedding its Pollen
May 22nd, while "pyrenaica"
is a little later



×4
posterior side

separately brown bract. green

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12 Feb

50

P. Thunberg

198-207

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cm
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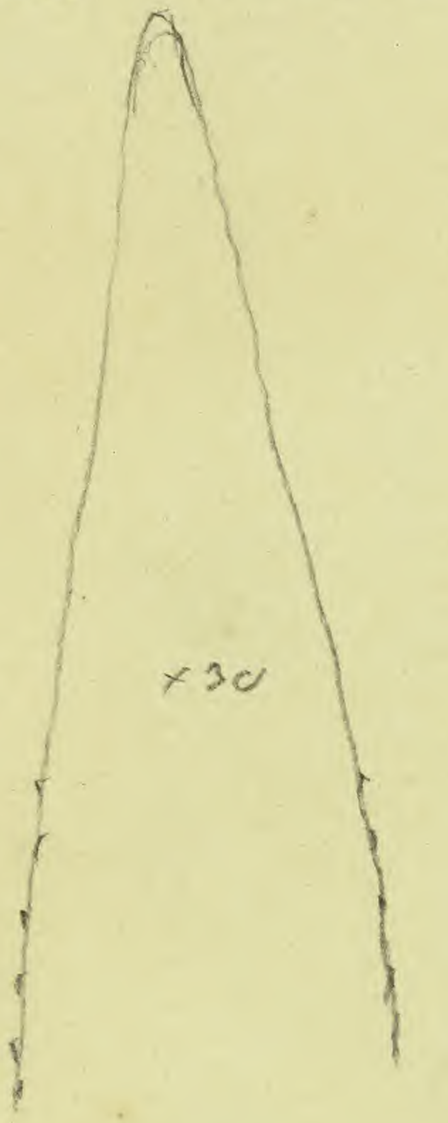
Pinus (Massoniana) Thunbg. May 13 1879

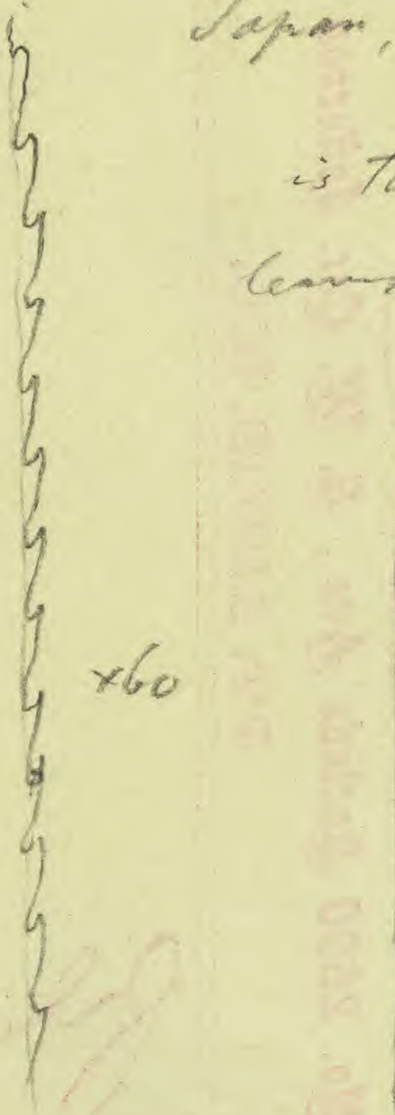
Japan Maximowicz.

x 30

Two principal parenchyma ducts upwards laterally and 3 or a few accessory ones below some strengthening cells in sheath



x 30



x 60

Japan, Albrecht
No 2
is the same
leaves very
pointed

Albrecht

x 60

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Pines, Thunberg
Japan, Oldham

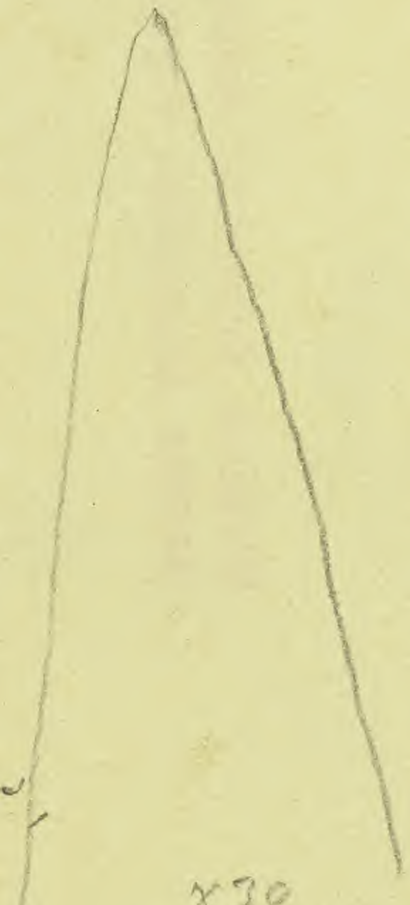
May 16 1879

× 30

Dots parenchymatous

2 larger ones laterally
2 smaller below
all surrounded by hypoderm cells
4 bundles of ra— above, 3 below
strong angles, few cells in sheath.

× 30



× 60

The hypoderm cells and dots would constitute this P. macrocarpa Nov 79

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Pinus Thunbergii

Japan ex Hb. Lugd. Bat

May 16 1879

×30

2 principal and one
lower accessory duct in the
leaf examined, parenchymatous,
without hypoderm, or only a few cells,
Wood bundles of hypoderm,
and, duct 4 above, and 8 below

×30

×60

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Pinus Thunbergii

Nov 13 1879

Syd nom. Jean: Flora — Hort Hoogeg 1878

x 20

ducts parenchymatous

hypoderm bundles all

around, at least 12–15

no strengthening cell with thickened walls

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Nov 14 1879

Pinus Thunbergii

Japon. ex HB. Leyden ; HB Wien

x 30

Yokahama
Japan, Maximowicz
; HB Boissier
is the same, leaves
a little larger

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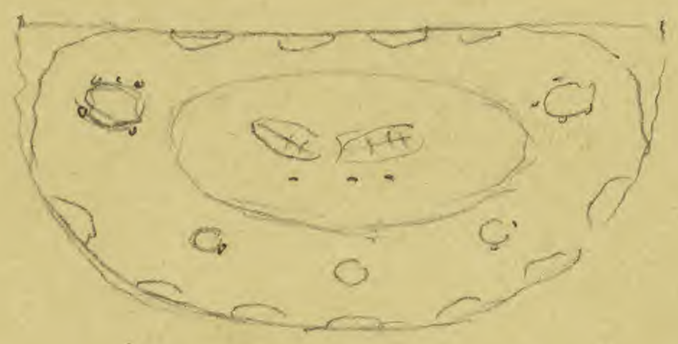
Pinus Thunbergii

Nov 13 1879

Nangasacki, Oldham № 560)

Nangasacki, Oldham in HC
Vindobon

× 30



there is very similar, but with a few more strengthening rolls within sheath

parenchymatous Ducts, with a few strengthening rolls, or none

hypoderm bundles strong
and numerous
often a few hypoderm bundles within sheath

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Nov 13 1879

Pinus Thunbergii

Japan, Albrecht #2 ÷ 46. Petersb

(The thinner leaf is densiflora!)

x 30

hypoderm ÷ numerous bundles all around.

none in sheath

some on Canyon, parenchymatous ducts

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Pinus Thunbergii Parlat.

Nov 16' 1879
=19'

Oldham Nagasaki

x4

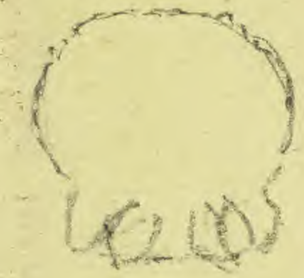
creek nearly entire

8-fronts

Pollen 0.065–0.072 m m

fronts broken off – early deciduous above base

Yokama Maximowicz



x4

8 fronts

Pollen 0.07 m m

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Pinus

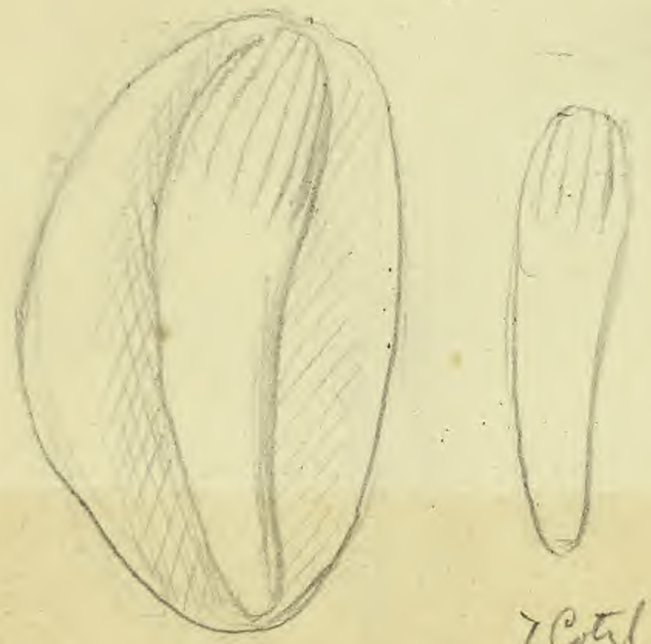
March 10 1875

found in the crop of Clarks Crow, Nicicorvus Columbianus

Camp Harney Capt Anderson

Jan 1875

×4



10 Cotyl

7 Cotyl

5 seeds examined

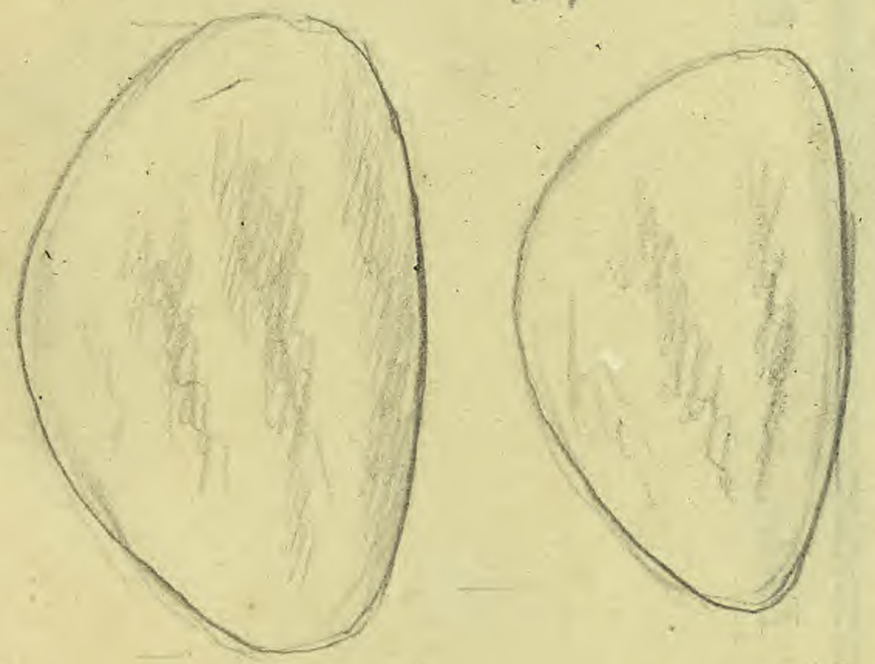
smallest with 7 }

1 with 8 } Cotyl

1 — 9 }

2 — 10 }

×4



Larger & smaller seeds

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C. Schroeder,

PHARMACEUTIST,

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Near Garrison Avenue, **ST. LOUIS, MO.**

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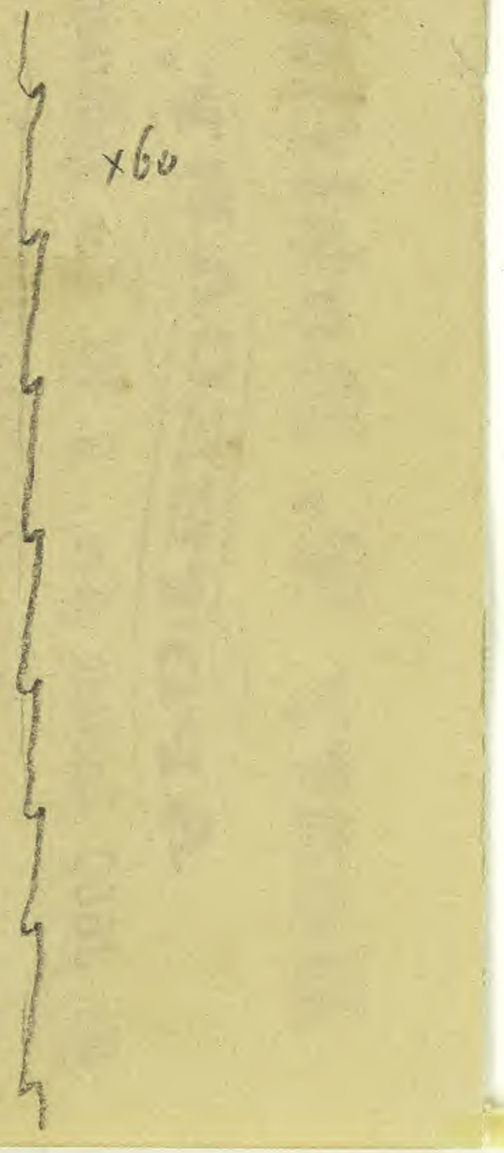
Pinus 2 Nov 14 1879

Japan. Perfetti, ex Hb Florentin marks x

Dubious! The only one
which seems to be Thunbergii

Juncts almost obliterated
very small, but distinctly
parenchymatous, with a few
thoroughly cells. Some
cuticle sheath, and in corners
scarcely any under epidermis



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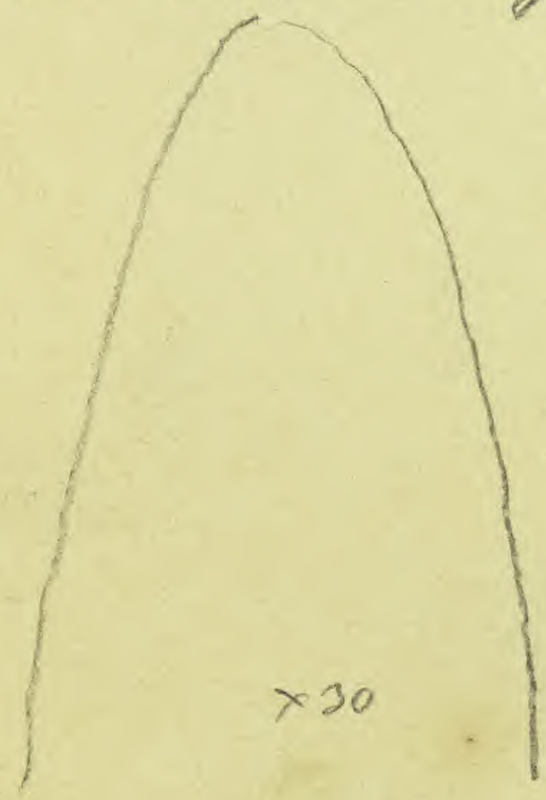
Pinus Australasiana Steudel May 12 79

= *P. Massoniana* ? = *sinensis* ?

N. Holland, Lotsky leg – ex Hb. Casson

×30

Ducts parenkymatous and only on upper side. 2 principal and 2–3 accessory surrounded by some hypoderm hypoderm + bundles all around, smaller, and some within sheath.



×30

×60

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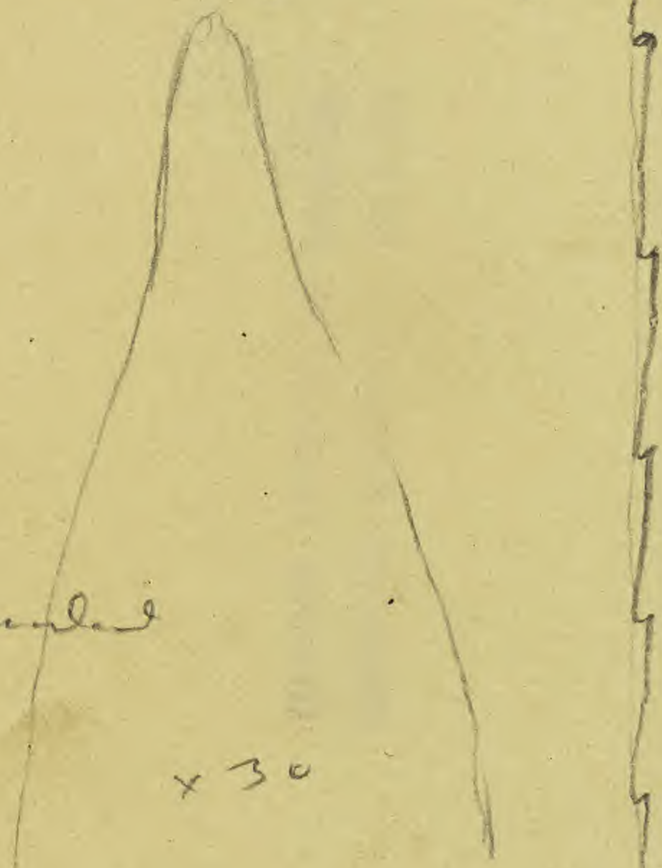
Lariio ?
Thunbergii ?

"Pinus densiflora"
Dropmore Park, Bucks 1869
evidently wrong !

May 12 1879

×30

Duct, parenchymatous !
indistinct, but well surrounded
by strengthening cells



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P. Lawrie ?

sub voce. P. denseflora = Hort Dropmore, England 1869

Nov 13 1879

×30

Ducts parenchymatous

hypoderm = very small but numerous bundles all around, none within sheath!

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